	Application No.	Applicant(s)
Notice of Allowability	09/846,528	ZHONG ET AL.
	Examiner	**Art Unit**	
	Erick Rekstad	2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *amendment filed August 27, 2004*.

2. ☒ The allowed claim(s) is/are *1-8 and 10-12*.

3. ☒ The drawings filed on *01 May 2001* are accepted by the Examiner.

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
      a)☐ All   b)☐ Some*   c)☐ None   of the:
        1. ☐ Certified copies of the priority documents have been received.
        2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
        3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the
            International Bureau (PCT Rule 17.2(a)).
      * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    (a)☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
        1)☐ hereto or 2)☐ to Paper No./Mail Date _____.
    (b)☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of
        Paper No./Mail Date _____.

    Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)

2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)

3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____

4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application (PTO-152)

6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .

7. ☐ Examiner's Amendment/Comment

8. ☒ Examiner's Statement of Reasons for Allowance

9. ☐ Other _____ .

CHRIS KELLEY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

DETAILED ACTION

This is an allowance for application no. 09/846,528 in response to the

amendment filed on August 27, 2004 in which claims 1-8 and 10-12 are presented for

examination.

Allowable Subject Matter

Claims 1-7 and 10-12 are allowed.

The following is an examiner's statement of reasons for allowance:

US Patent 6,584,154 to Wu, teaches a method for decoding interlaced video

frames, the method comprising the steps of;

Down scaling a motion vector to produce a reduced resolution motion vector (Col

15 Lines 7-9, Col 13 Lines 16-53);

Detecting a moving area in an interlaced video reference frame (Col 15 Lines 9-

14) Note the IDCT is the motion-compensated difference between pictures (Col 7 Lines

26-31);

Modifying the reduced resolution motion vector to produce a modified motion

vector (Col 15 Lines 10-25); and

Retrieving pixel values from the interlaced video reference frame according to the

modified motion vector (Col 15 Lines 26-65). (Col 12 Line 64-Col 16 Line 15, Figs. 8,

11-14). Wu does not teach the memory medium including code for decoding interlaced

video frames. Wu further does not teach the detecting the moving area in the interlaced

video reference frame includes calculating a difference between two fields at an area of

the interlaced video reference frame corresponding to the motion vector and comparing

the difference between the two fields to a predetermined threshold. Wu does not teach

the decoding method wherein a vertical component of the reduced resolution motion

vector is modified by changing a "1/2" pixel position to the nearest odd integer position.

US Patent 6,310,919 to Florencio teaches a method for decoding interlaced

video frames, the method comprising the steps of;

Down scaling a motion vector to produce a reduced resolution motion vector (Col

4 Lines 16-28);

Detecting a moving area in an interlaced video reference frame (Col 6 Lines 27-

39);

Modifying the reduced resolution motion vector to produce a modified motion

vector (Col 4 Lines 29-36); and

Retrieving pixel values from the interlaced video reference frame according to the

modified motion vector (Col 6 Lines 40-52). (Col 3 Line 48-Col 4 Lines 52, Col 5 Line

64-60, Figs. 1, 2, 5A-B).

Florencio further teaches the storage of the method on computer program code

embodied in tangible media, such as floppy diskettes, cd-roms, hard drives, or any other

computer readable storage medium as required by claim 11 (Col 9 Lines 14-32).

Florencio teaches a decoder as required by claim 12 (Fig. 1). Florencio does not

teach the detecting the moving area in the interlaced video reference frame includes

calculating a difference between two fields at an area of the interlaced video reference

frame corresponding to the motion vector and comparing the difference between the

two fields to a predetermined threshold. Florencio further does not teach the decoding

method wherein a vertical component of the reduced resolution motion vector is modified by changing a "1/2" pixel position to the nearest odd integer position.

As stated in the previous Office Action, claims 7 and 9 were objected to as being allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The applicants' amendment incorporates the objected claim 9 into claim 1 and claim 7 rewritten in independent form including all of the limitations of the base claim and any intervening claims. The claims therefore overcome the prior art of Wu and Florencio. These features taken with the others in the claims define over the prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patent Application Pub. 2002/0150159 A1 to Zhong.

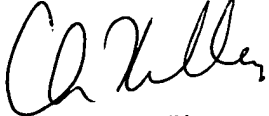"Adaptive Motion Vector Resampling for Compressed Video Down-Scaling" to Shen et al.

US Patent 6,252,906 to Canfield.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erick Rekstad whose telephone number is 703-305-5543. The examiner can normally be reached on 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Kelley can be reached on 703-305-4856. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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